nston H. Hickox
cncy Secretary

Air Resources Board

Alan C. Lloyd, Ph.D.
Chairman
2020 L Street . P.O. Box 2815 . Sacramento, California 95812 . www.arb.ca.gov

Gray Davis
Governor

August 18, 2000

Mr. Mark Pisano
Executive Director
Southern California Association of Governments
818 West 7th Street
Los Angeles, California 90017

Dear Mr. Pisano:

As you know, efforts by the Southern California Association of Governments (SCAG) to determine conformity for its 2000-2006 Regional Transportation Improvement Program (RTIP) have been impeded by reported shortfalls in emission reductions for the Enhanced Inspection and Maintenance Program and other State Implementation Plan (SIP) control measures. I am pleased to report that our proposal to address these shortfalls has been approved by the responsible federal agencies. With this letter Air Resources Board (ARB) staff is providing revised control factors, for use in this RTIP conformity assessment, which credit the full State commitment in the applicable 1999 Ozone SIP for emission reductions from on-road vehicles,

This correspondence includes two enclosures. The first contains ARB's revised on-road control factors for the South Coast Air Basin, for the years 2002.2005, 2008 and 2010, including a table showing current estimates of emission reductions relative to SIP commitments. The second enclosure is the letter of August 17, 2000, from ARB Executive Officer Michael P. Kenny to U.S. EPA Regional Administrator Felicia Marcus, which details our approach to address the conformity-related SIP shortfalls. This approach, which we developed in coordination with SCAG and the South Coast Air Quality Management District, has been carefully reviewed by U.S. EPA, the Federal Highway Administration and the Federal Transit Administration, and is supported by those agencies.

Use of ARB's EMFAC7G model and the revised control factors should result in a positive conformity determination for the current RTIP, if modeling assumptions, motor vehicle activity, and emission reductions from SCAG transportation measures are consistent with the 1999 SIP. In some cases, particularly for oxides of nitrogen (NOx), emission reductions from State measures will be greater than our current on-road SIP commitments. Where this occurs, it is important to understand that any reductions beyond the State's on-road SIP commitments are being used to comply with our overall SIP attainment obligation.

The enclosed control factors replace the preliminary version provided to SCAG on April 17, 2000. The factors are unique to the Basin, applicable to EMFAC7G and Direct Travel Input Model (DTIM) results, consistent with emissions inventory methods used in the applicable 1999 Ozone SIP. Consistent with past guidance, the factors for 2010 may be used for all years thereafter,

We look forward to working with you in the coming months to meet the challenges of the 2001 SIP and the 2001 Regional Transportation Plan. If you have questions, please call me at (916) 445-4383 or have your staff contact Ms. Cynthia Marvin, Chief, Air Quality and Transportation Planning Branch, at (916) 322-7236.

Sincerely,

Michael P. Kenny
Executive Officer

Enclosures

cc: Mr. Barry Wallerstein, D.Env. (without Enclosures)
Executive Officer
South Coast Air Quality Management District
21865 E. Copley Drive
Diamond Bar, California 91765-4 182

Control Factors for California Ozone SIP Measures*
South Coast Nonattainment Area

2002

	Enhanced Insp/Maint**	State/Fed Measures	Total Factor
ROG			
Light Duty Passenger and Trucks	-0.021	0.051	0.029
Medium Duty Trucks	**-0.035**	0.047	0.012
Heavy-Duty Gasoline Trucks	0.020	0.049	0.069
Heavy-Duty Diesel Vehicles	0.000	0279	0.279
Motorcycles	0.000	0.038	0.036
NOx			
Light Outy Passenger and Trucks	-0.005	0.050	0.045
Medium Duty Trucks	-0.002	0.050	0.048
Heavy-Duty Gasoline Trucks	0.043	0.048	**0.091**
Heavy-Duty Diesel Vehicles	**0.000**	0.034	0.034
Motorcycles	0.000	0.050	0.050

'Apply these fractions to emissions estimates by vehicle class to calculate emission reductions from state and federal measures not accounted from in EMFAC7G. Apply these factors to the inventory remaining after the regional mobility adjustment.

**Negative control factors for I/M Indicate increased emissions over the EMFAC7G baseline.

Emission reductions from original SIP inventory

Emission Reductions By Vehicle Category (tpd)

ROG	Baseline Inventory	Emission Reductions	Remaining Inventory
Light Duty Passenger and Trucks	245.4	7.2	**238.2**
Medium Duty Trucks	**11.5**	**0.1**	11.4
Heavy Duty Gasoline Trucks	7.5	0.6	7.0
Heavy Duty Diesel Vehicles	16.7	4.7	12.1
Motorcycles	**3.7**	0.1	3.6
TOTAL ON-ROAD	**264.9**	12.7	272.2
NOx			
Light Duty Passenger and Trucks	**248.9**	11.3	237.6
Medium Duty Trucks	**21.5**	1.0	20.5
Heavy Duty Gasoline Trucks	33.3	3.0	30.3
Heavy Duly Diesel Vehicles	159.5	5.5	154.0
Motorcycles	1.5	0.1	1.4
TOTAL ON-ROAD	**464.8**	20.9	443.9

Emission Reductions By Measure (tpd)	**ROG**	**NOx**
Enhanced **I/M (relative lo baseline assumption)*****	**-5.5**	0.2
SIP Measures for Gasoline Vehicles **(M1/M2)**	**0.0**	0.0
SIP Measures for Diesel Vehicles **(M4/M5/M6/M17)**	**4.7**	5.5
Cleaner **Burning Gasoline**	13.5	15.2
Motorcycle Standards	0.0	0.0
TOTAL ON-ROAD REDUCTIONS	**12.7**	**20.9**
***I/M reductions assumed in SIP baseline:	32.5	25.8

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Control Factors for California Ozone SIP Measures*
South Coast Nonattainment Area

2005

	Enhanced Insp/Maint**	Slate/Fed Measures	Total Factor
ROG			
Light Duty Passenger and Trucks	-0.006	0.052	**0.046**
Medium Duty Trucks	-0.009	0.003	0.074
Heavy-Duty Gasoline Trucks	0.080	0.047	0.128
Heavy-Duty Diesel Vehicles	0.000	0.333	0.333
Motorcycles	0.000	0.048	**0.048**
NOx			
Light Duty Passenger and Trucks	-0.003	0.085	0.082
Medium Duty Trucks	-0.001	0.106	0.105
Heavy-Duty Gasoline Trucks	0.104	0.082	0.166
Heavy-Duty Diesel Vehicles	0.000	0.196	0.198
Motorcycles	0.000	0.069	**0.068**

*Apply these fractions to emissions estimates by vehicle class lo calculate emission reductions from state and federal measures not accounted from In EMFAC7G. Apply these factors to the inventory remaining after the regional mobility adjustment.

"Negative control factor6 for I/M indicate increased emissions over the EMFAC7G baseline.

Emission reductions' from original SIP inventory

Emission Reductions By Vehicle Category (tpd)

ROG	Baseline Inventory	Emission Reductions	Remaining Inventory
Light Duty Passenger and Trucks	183.5	**8.4**	**175.1**
Medium Duty Trucks	8.4	0.7	**8.7**
Heavy Duty Gasoline Trucks	**6.6**	**0.8**	**5.8**
Heavy Duty Diesel Vehicles	15.9	5.3	10.6
Motorcycles	3.9	**0.2**	3.7
TOTAL ON-ROAD	219.3	15.4	203.9
NOx			
Light Duty Passenger and Trucks	206.3	**16.8**	189.4
Medium Duty Trucks	20.0	2.1	17.9
Heavy Duty Gasoline Trucks	29.0	4.6	24.2
Heavy Duty Diesel Vehicles	156.0	30.6	125.4
Motorcycles	**1.6**	**0.1**	1.5
TOTAL ON-ROAD	**412.9**	54.5	358.4

Emission Reductions By Measure (tpd)

	ROG	NOx
Enhanced IN (relative to baseline assumption)"'	-0.6	2.3
SIP Measures for Gasoline Vehicles (M1/M2)	0.4	4.4
SIP Measures for Diesel Vehicles (M4/M5/M6/M17)	5.3	30.6
Cleaner Burning Gasoline	10.4	17.2
Motorcycle Standards	0.0	0.0
TOTAL ON-ROAD REDUCTIONS	**15.4**	54.5
***I/M reductions assumed in SIP baseline:	**31.0**	18.1

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Control Factors for California Ozone SIP Measures*
South Coast Nonattainmen! Area 2008

	Enhanced Insp/Maint**	State/Fed Measures	Total Factor
ROG			
Light Duty Passenger and Trucks	-0.003	0.114	0,111
Medium Duty Trucks	-0.004	0.168	0.164
Heavy-Duty Gasoline 'Trucks	0.077	0.049	0.126
Heavy-Duty Diesel Vehicles	0.000	0.433	0.433
Motorcycles	0.000	0.106	0.106
NOx			
Light Duty Passenger and Trucks	-0.003	0.188	0.184
Medium Duty Trucks	-0.001	0.274	0.273
Heavy-Duty Gasoline Trucks	0.115	0.061	0.176
Heavy-Duty Diesel Vehicles	0.000	0.333	0.333
Motorcycles	0.000	0.097	0.097

*Apply these fractions to emissions estimates by vehicle class lo calculate emission reductions from state and federal measures not accounted from In EMFAC7G. Apply these factors to the Inventory remaining after the regional mobility adjustmont.

**Negative control factors for I/M Indicate Increased emissions over the EMFAC7G baseline.

Emission reductions from original SIP inventory

Emission Reductions By Vehicle Category (tpd)

	Baseline Inventory	Emission Reductions	Remaining Inventory
ROG			
Light Duty Passenger and Trucks	136.6	i5.2	121.4
Medium Duty Trucks	7.6	1.2	6.4
Heavy Duty Gasoline Trucks	5.7	0.7	5.0
Heavy Duty Diesel Vehicles	15.8	6.8	8.9
Motorcycles	4.0	0.4	3.6
TOTAL ON-ROAD	189.8	24.4	145.3
NOx			
Light Duty Passenger and Trucks	174.2	32.0	142.1
Medium Duty Trucks	18.6	5.1	13.5
Heavy Duty Gasoline Trucks	25.1	4.4	20.7
Heavy Duty Diesel Vehicles	157.2	52.4	104.8
Motorcycles	1.6	0.2	1.5
TOTAL ON-ROAD	376.7	94.1	282.6

Emission Reductions By Measure (tpd)	ROG	NOx
Enhanced MM (relative to baseline assumption)***	0.0	2.4
SIP Measures for Gasoline Vehicles (M1/M2)	2.5	26.1
SIP Measures for Diesel Vehicles (M4/M5/M6/M17)	6.0	52.4
Cleaner Burning Gasoline	7.9	13.1
Motorcycle Standards	0.3	0.0
Remaining AR6 Commitments	6.9	0.0
TOTAL ON-ROAD REDUCTIONS	24.4	94.1
***I/M reductions assumed In SIP baseline:	29.3	11.8

8/15/00

Control Factors for California Ozone SIP Measures*
South Coast Nonattainment Area 2010

	Enhanced Insp/Maint**	State/Fed Measures	On Road Black Box	Total Factor
ROG				
Light Duty Passenger and Trucks	-0.003	0.146	0.268	**0.411**
Medium Duty Trucks	-0.003	0.217	0.246	0.460
Heavy-Duty Gasoline Trucks	0.074	0.076	0.266	**0.416**
Heavy-Duty Diesel Vehicles	0.000	0,549	0.141	0.690
Motorcycles	0.000	0.221	0.244	0.465
NOx				
Light Duty Passenger and Trucks	-0.002	0.283	0.000	0.281
Msdium Duty Trucks	-0.001	**0.404**	**0.000**	**0.404**
Heavy-Duty Gasoline Trucks	0.122	0.101	0.000	0.223
Heavy-Duty Diesel Vehicles	0.000	0.421	0.000	0.421
Motorcycles	0.000	0.199	0.000	0.199

'Apply these fractions to emissions estimate6 by vehicle class to calculate emission reductions from state and federal measures not accounted from **In EMFAC7G.** Apply these factor6 to **the** inventory remaining **after** the regional mobility adjustment.

Negative control factors for **I/M indicate increased emissions over the **EMFAC7G** baseline.

Emission reductions from original SIP inventory

Emission Reductions By Vehicle Category (tpd)

ROG	Baseline Inventory	Emission Reductions	Remainlng Inventory
Light Duty Passenger and Trucks	113.9	46.9	**67.0**
Medium Duty Trucks	5.5	3.0	**3.5**
Heavy Duty Gasoline Trucks	5.2	2.2	**3.1**
Heavy Duty Diesel Vehicles	16.0	11.1	**5.0**
Motorcycles	4.1	**1.9**	2.2
TOTAL ON-ROAD	**145.7**	**65.0**	**80.7**
NOx			
Light Duty Passenger and Trucks	159.0	44.7	114.3
Medium **Duty Trucks**	77.6	7.1	10.5
Heavy Duty **Gasoline** Trucks	23.2	5.2	18.1
Hoavy Duty Diesel Vehicles	161.3	67.9	93.4
Motorcycles	1.6	0.3	1.3
TOTAL ON-ROAD	**362.8**	125.2	237.6

Emission Reductions By Measure (tpd)	**ROG**	**NOx**
Enhanced I/M (relative to baseline assumption)***	**0.0**	**2.5**
SIP Measures **for Gasoline Vehicles (M1/M2)**	**4.1**	**42.9**
SIP Measures for **Diesel** Vehicles **(M4/M5/M6/M17)**	**6.9**	**5.9**
Cleaner Burning Gasoline	6.6	10.7
Motorcycle Standards	0.8	0.2
Urban Bus Standards		2.0
U.S. EPA's Heavy Duty Gasoline Truck Standards	0.2	1.0
Remaining ARB Commitments	9.6	0.0
Black Box	36.8	0.0
TOTAL ON-ROAD REDUCTIONS	65.0	**125.2**
***I/M reductions assumed in SIP baseline:	28.3	8.8

Winston H. Hickox
Agency Secretary

Air Resources Board

Alan C. Lloyd, Ph.D.
Chairman
2020 L Street . P.O. Box 2815 . Sacramento, California 95812 . www.arb.ca.gov

Gray Davis
Governor

August 17, 2000

Ms. Felicia Marcus
Regional Administrator
Region IX
U.S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, California 94105

Dear Ms. Marcus:

This letter documents how and when the State of California will improve the effectiveness of the Enhanced Vehicle Inspection and Maintenance (I/M) program, also known as Smog Check II, for all nonattainment areas required to implement the program. To address transportation conformity in the South Coast, this letter also reiterates the Air Resources Board's (ARB or Board) commitment to achieve all of the emission reductions identified for our measures affecting on-road vehicles in the 1994 State Implementation Plan (SIP) for Ozone and describes the supplemental measures we are currently evaluating as part of this effort. The combination of improving the Enhanced I/M program and adopting supplemental measures will fulfill the State's obligations to achieve on-road motor vehicle emission reductions and enable transportation conformity findings for the Los Angeles area. We also include commitments from all three responsible agencies to adopt and submit a comprehensive ozone SIP revision for South Coast in 2001.

The 1994 Ozone SIP established ARB's enforceable commitment to achieve emission reductions associated with statewide mobile source measures. The Bureau of Automotive Repair (BAR), which operates the Smog Check program, also committed to adopt and implement California's Enhanced I/M in the urbanized portions of the South Coast, Southeast Desert, Ventura, Sacramento Region, San Joaquin Valley, and San Diego. The 1994 SIP identified emission reduction targets for the program in all of these areas, except San Diego (which used Enhanced I/M as a contingency measure). The applicable plan for the South Coast, the 1999 Ozone SIP, continued to rely on reductions from Smog Check II for progress and attainment.

On July 12, 2000, ARB released a-report evaluating California's Enhanced I/M program. This report found that although Smog Check II is achieving significant emission reductions, it is not providing all of the benefits anticipated in the Ozone SIP. This shortfall affects the Enhanced I/M commitment in the SIP, the on-road motor vehicle emissions used for transportation conformity purposes, and attainment of the federal one-hour ozone standard.

Improvements to the Smog Check II Program

In our July report, we identified a number of options for improving the Enhanced I/M program. BAR and ARB are now committing to implement a series of near-term improvements, between September 2000 and December 2002, as described in Attachment A, "Improvements to Smog Check II." BAR's commitment is evidenced by the signature of Mr. Douglas Laue, Chief of BAR in Attachment A. These near-term improvements, within BAR's current legal authority, are:

- more stringent inspection standards for oxides of nitrogen (NOx),
- loaded-mode testing for heavy-duty gas trucks,
- improved evaporative emission testing,
- directing more vehicles to Test-Only and/or high-performing stations, and
- use of remote sensing.

These improvements will significantly reduce ozone precursors – reactive organic gases (ROG) and NOx – in each of the six regions, as measured in the inventory currency of the applicable SIP for each area. The table below summarizes the benefits statewide.

Statewide Benefits of Near-Term Smog Check II Improvements
(SIP Emission Reductions in Tons per Day)

2002		2005		2008		2010	
ROG	NOx	ROG	NOx	ROG	NOx	ROG	NOx
4.5	9.3	9.2	12.4	10.4	13.7	9.9	13.2

The near-term Smog Check II improvements that we are committing to make, combined with the benefits from already adopted ARB measures, are sufficient to meet the State's emission reduction obligations for on-road motor vehicles in 2002 and 2005, in most areas. The Sacramento Region was able to demonstrate conformity in its most recent conformity analysis without the benefits of the near-term program improvements. However, the Sacramento Region and the San Joaquin Valley in 2005, and the South Coast in 2008 and 2010 will need further improvements to Smog Check II (or other measures) to meet their progress and attainment needs. We expect the upcoming SIP revision for the San Joaquin Valley will establish new commitments for emission reductions from the Smog Check II program in 2005.

In Attachment A, ARB and BAR also commit to fully satisfy the Smog Check II commitment for Sacramento in 2005, and the South Coast in 2008 and 2010, through either further program improvements or other measures. We are committed to secure these additional emission reductions by 2003, with implementation by 2004 for Sacramento and 2006 for South Coast.

ARB and BAR will work together to evaluate whether there are additional mid-term program improvements within BAR's authority that are feasible to secure the needed emission reductions. Such program improvements may include further tightening of inspection standards for all pollutants. If these emission reductions cannot be secured from within the Smog Check program, ARB will secure them from other mobile source measures. The mid-term program improvements could also be achieved through legislative action to increase the number of vehicles subject ***to*** the Smog Check **II** program by:

- removing the rolling 30-year model year exemption, and
- extending the program beyond the current definition of urbanized area to include all eligible vehicles registered in a nonattainment region subject to Smog Check II. This would help the Sacramento Region and the San Joaquin Valley reach attainment.

Transportation **Conformity in the South Coast**

One of the most critical concerns resulting from the shortfall in the Smog Check II program, and other State measures, has been the ability of the Southern California Association of Governments (SCAG) to make a positive transportation conformity finding for the South Coast Air Basin this year. To obtain federal transportation **funds,** the Clean Air Act (Act) requires transportation agencies to find that transportation plans conform to the SIP (i.e., emissions from transportation plans are within the motor vehicle emissions budgets established in the applicable SIP). The emissions budgets in the 1999 South Coast SIP assumed that all vehicle control measures would be **fully** effective; shortfalls hinder a conformity finding. Even with Smog Check **II program** improvements, ARB will need to secure additional emission reductions **for 2008 and** 2010 in the South Coast to fully meet our on-road mobile source SIP commitments.

We are providing information in this letter on the current and future effectiveness of ARB's control measures to aid in the conformity analysis and enable a positive conformity finding. This analysis relies on one federal measure -- a regulation to reduce emissions from heavy-duty diesel trucks nationally -- which U.S. EPA has adopted and will take-effect in 2004. Attachment B, "Quantitative Summary of Transportation Conformity Approach," details the mix of strategies that the State is using to meet its on-road motor vehicle commitments for South Coast in the 1999 **Ozone SIP.** Attachment C, "Adopted Supplemental Measures," identifies measures not explicitly described in the SIP that ARB has already adopted to make up part of the emission reduction shortfalls. Attachment D, "Future Supplemental Measures," describes some of the further strategies we will pursue to complete our emission reduction SIP commitments for 2008 and 2010.

In most cases, ARB has already taken initial action to adopt the specific measure described in the original 1994 SIP, and carried over in the 1999 South Coast SIP. If an adopted measure does not achieve the full reductions in the SIP, supplemental measures to achieve emission reductions would complete the commitment. Each of these future supplemental measures described in Attachment D is directly linked to our original SIP commitment – completing one of the 1994 SIP measures.

The conformity regulations allow credit for adopted measures, partially implemented measures (to the extent that implementation is assured), and enforceable SIP commitments. We believe this package meets the requirements of the Act and the conformity regulations to assure credit for actions already taken by the State and future actions that are assured by existing, legally-enforceable SIP commitments. The table below presents our accounting of emission reductions creditable for transportation conformity purposes in the South Coast.

Transportation Conformity Accounting for the South Coast Air Basin
(Emission Reductions in Tons per Day in 1999 SIP Currency)

State and Federal On-Road Motor Vehicle Measures	2002		2005		2008		2010	
	ROG	NOx	ROG	NOx	ROG	NOx	ROG	NOx
Current Smog Check Program	24.9	21.0	25.5	14.2	22.8	8.8	21.6	6.2
Smog Check Improvements	2.1	5.1	4.8	6.2	6.5	5.5	6.7	5.1
Adopted On-Road Measures	18.2	20.7	16.1	48.2	16.5	82.6	17.6	112.7
Future Supplemental Measures			–	–	6.9	–	9.6	–
Remaining Long-Term Measures (M-I7 and Advanced Technology)				4.0	1.0	9.0	37.8	10.0
Creditable On-Road Reductions	45.2	46.8	46.4	72.6	53.7	105.9	93.3	134.0
On-Road Reduction Target	44.3	43.5	44.3	61.9	53.7	78.4	93.3	93.9

As a regulatory agency, ARB has a long history of adopting emission control regulations in a timely and efficient manner. Whether our obligations are contained in a clean air plan such as the 1994 SIP, or a lawsuit settlement, the Board and its staff take these obligations seriously and have demonstrated both a commitment and an ability to meet those responsibilities. The Board has adopted at least twenty new measures since 1994 to fulfill its obligations, along with multiple amendments to existing regulations.

2001 Comprehensive Ozone **SIP** Revision for South Coast Air Basin

We commit to reconcile changes made to the emission reduction strategy for the South Coast in an upcoming, comprehensive ozone SIP revision. The SIP revision will also incorporate the latest emission inventory estimates and new modeling based on the data collected during the 1997 Southern California Ozone Study. It will reassess the emission reductions needed to attain the federal one-hour ozone standard in the South Coast in 2010 based on this updated information, and it will include enforceable commitments to achieve those emission reductions-

Each of the agencies responsible for SIP preparation in this region – the South Coast Air Quality Management District, the Southern California Association of Governments, and the Air Resources Board has committed in writing to develop, adopt, and submit this SIP to U.S. EPA in 2001, with local adoption by October 2001. Attachment E, "2001 Comprehensive Ozone State Implementation Plan Revision for the South Coast Air Basin," documents these commitments.

In its Resolution 00-4, adopted on January 27, 2000, with the 1999 SIP for the South Coast Air Basin, the Air Resources Board said:

> ***"Be it further resolved, that the Board directs the Executive Officer to ensure that the comprehensive SIP revision for the South*** Coast ***is developed and brought to the Board for approval and submittal to U. S. EPA in 2001. "***

We intend to meet this directive from our Board. ARB staff has already begun development of the state measures component of the 2001 SIP, along with the joint agency technical work on inventory and air quality modeling.

Conclusion

This letter and its attachments ***lay*** out a workable, legally-valid approach to fulfill the State's SIP commitments to reduce on-road motor vehicle emissions, from the Smog Check II program and other measures. U.S. EPA and federal transportation agencies should consider the commitments and strategy descriptions contained herein as ample evidence of the State's intent, authority, and ability to implement measures to support a positive conformity finding for the South Coast.

If you have any questions or need further information, please call me at (916) 445-4383 or contact Ms. Cynthia Marvin, Chief, Air Quality and Transportation Planning Branch, at (916) 322-7236.

Sincerely,

/s/

Michael P. Kenny
Executive Officer

Attachments

cc: See next page.

cc: (all with Attachments)

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Air Resources Board

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ATTACHMENT A
IMPROVEMENTS TO SMOG CHECK II

In the 1994 California State implementation Plan (SIP) for Ozone, the State committed to adopt and implement an Enhanced Vehicle Inspection and Maintenance (I/M) Program in the urbanized portions of the South Coast, Southeast Desert, Ventura, Sacramento Region, San Joaquin Valley, and San Diego. The SIP also identified specific emission reduction targets -- in each milestone and attainment year for reactive organic gases (ROG) and nitrogen oxides (NOx) -- that the program must achieve in all of these areas, except San Diego (which relied on Enhanced I/M as a contingency measure only). The California Department of Consumer Affairs' Bureau of Automotive Repair (BAR) then adopted regulations in 1995 and 1996 to implement this program, which is currently underway. The U.S. Environmental Protection Agency approved the 1994 SIP for all six areas, plus a subsequent 1999 SIP revision for the South Coast Air Basin that continued to rely on this inspection and maintenance program.

A July 12, 2000 report by the Air Resources Board (ARB) entitled "Final Evaluation of California's Enhanced Vehicle Inspection and Maintenance Program (Smog Check II)," quantified the effectiveness of th.e current Smog Check II program and found that the program was not achieving the full emission reductions anticipated in the SIP. The report also identified a series of potential options to increase the effectiveness of the program. Since the release of that report, the State has determined which options it will implement to improve Smog Check II in the near-term. Further mid-term improvements are still being evaluated.

Near-Term **Smog Check II Improvements**

BAR will implement the following near-term program improvements, which require no statutory changes, on the schedule outlined below.

- **Lower nitrogen oxides (NOx)** cut **points.** Implement more stringent NOx inspection standards, by decreasing "cut points" to interim levels (approximately half way between the current cut points and the final levels envisioned in the SIP). Tighter cut points will increase the identification of high emitting vehicles and the level of repair.

  Implementation Schedule:

  Implement interim cut points — September - December 2000

- Loaded **mode testing for heavy-duty gas trucks.** Test compatible gas-powered heavy-duty trucks with a gross vehicle weight over 8,500 pounds under loaded-mode conditions on a dynamometer. To implement this option, ARB and BAR will need to develop criteria for determining vehicle compatibility with the

test equipment, cut points and a test protocol. BAR will also need to adopt regulations and coordinate with the Department of Motor Vehicles (DMV) to begin directing these heavy-duty trucks to loaded-mode tests.

Implementation Schedule:

Develop test protocol and select cut points	March 2001
Adopt regulations and update test equipment	August 2001
Implement heavy-duty testing	December 2001

- **Improved evaporative emission testing, including a test for liquid leaks. We** will add two elements to the evaporative testing program. First, we will implement a new visual inspection test for liquid leaks. BAR has already taken the first step, inspecting vehicles for liquid leaks as part of the existing roadside test program. We will evaluate whether these inspections are sufficient to identify and repair liquid leaks. If not, a more rigorous test will be developed and implemented. We believe further evaporative emission reductions may be achieved through a low pressure test; and we will add such a test for evaporative systems to identify and repair excess ROG emissions. There are several technical issues to be resolved before this second element of the evaporative testing program improvements can be implemented. These include evaluating how to design the test to avoid inducing failures (due to pinching or damaging **of** hoses during testing). Therefore, this element will be phased-in over a longer time frame.

implementation Schedule:

Liquid leak test:	
Develop liquid leak test protocol	September 2000
Adopt regulations and notify stations	February 2001
Implement program	September 2001
Low pressure test:	
Develop and evaluate test protocol	June 2001
Adopt regulations and update test equipment	December 2001
Implement test	June 2002

- **Direct more vehicles to Test-Only or other high-performance stations.** The SIR-assumed that up to 36 percent of vehicles would be directed to Test-Only stations. Currently, about 15 percent of vehicles subject to Smog Check are inspected at Test-Only stations. BAR studies have shown that greater emission reductions are achieved when vehicles are directed to a Test-Only station rather than a Test and Repair station. BAR has also evaluated station performance data that show that the top 25 percent of Test and Repair stations (based on relative performance) achieve similar emission reductions to Test-Only stations.

We have begun increasing the vehicles sent to Test-Only stations and will achieve further emission reductions by directing more vehicles to Test-Only stations, or if necessary other higher performing stations. In the near-term, we will increase the number of vehicles directed to Test-Only stations to 20 percent of the updated vehicle population for 2000. We will also evaluate the need to develop criteria for selecting certain Test and Repair stations as "higher performing stations" (i.e., stations that achieve emission reduction-s sufficiently similar to Test-Only). We will then increase the number of vehicles directed to Test-Only and/or high performing Test and Repair stations, as described below.

Implementation Schedule:

Direct 20 percent of vehicles to Test-Only based on updated vehicle population estimates beginning with January 2001 renewals	September 2000
Adopt regulations to set criteria for high performing stations (if necessary)	September 2001
Direct 30 percent of vehicles to Test-Only (or high performing stations, if necessary)	December 2001
Direct 36 percent of vehicles to Test-Only (or high performing stations, if necessary)	December 2002

- **Use remote sensing to help identify high-emitting cars.** ARB and BAR will pursue a pilot study to evaluate how we can potentially use remote sensing as part of the Smog Check program to identify high emitters for an off-cycle inspection and/or identify "clean" vehicles which could be exempted from their next inspection. Remote sensing may also be used to evaluate the efficacy of the program in future years. Because of the great interest in adding a remote sensing component to the program, we will allow sufficient time in designing the pilot program to solicit input from the public and interested stakeholders.

  Implementation Schedule:

Complete pilot program design	March 2001
Start pilot program	September 2001

ARB has quantified the emission benefits of the program improvements described above. The following table shows the current Smog Check II program and projected benefits from this suite of near-term improvements in each of the six regions, using the appropriate emission inventory in the area's applicable SIP. The reductions from the current program include the benefits of BAR's new vehicle scrappage program, based on the funding provided in this year's budget. Because we are not sure how remote sensing will ultimately be incorporated into the program, no emission benefits are ascribed to that component yet.

Benefits of Smog Check II with Near-Term improvements
(Emission reductions in tons per day in appropriate SIP currency)

Note: Italicized numbers indicate that there was no specific SIP commitment for reductions in that year.

2002	Target		Reductions from Current Program		Reduction?, [illegible] Improvements		Total Reductions	
	ROG	NOx	ROG	NOx	ROG	NOx	ROG	NOx
South Coast	32.5	25.8	24.9	21.0	2.1	5.1	27.0	26.1
Ventura	1.8	2.0	1.2	1.3	0.2	0.3	1.4	1.7
Sacramento	6.3	6.5	4.0	3.5	0.5	1.0	4.5	4.5
San Joaquin	*5.1*	*5.7*	4.3	3.5	0.5	1.1	4.8	4.6
Antelope	0.6	0.5	0.4	0.3	0.1	0.1	0.4	0.4
Coachella	2.4	2.1	1.5	1.1	0.2	0.3	1.7	1.4
San Diego	11.3	*8.1*	7.5	5.5	1.0	1.4	8.5	6.9
Total	60.1	50.9	43.9	36.3	4.5	9.3	48.4	45.6

2005	Target		Reductions from Current Program		Reductions from Improvements		Total Reductions	
	ROG	NOx	ROG	NOx	ROG	NOx	ROG	NOx
South Coast	31.0	18.1	25.5	14.2	4.8	6.2	30.4	20.4
Ventura	1.4	1.9	1.1	1.2	0.3	0.5	1.3	1.7
Sacramento	5.1	6.4	3.7	3.4	0.9	1.5	4.6	5.0
San Joaquin	*4.2*	*4.6*	4.2	3.4	0.9	1.8	5.1	5.1
Antelope	0.5	0.4	0.4	0.3	0.1	0.1	0.5	0.4
Coachella	2.1	2.4	1.5	1.1	0.4	0.5	1.9	1.6
San Diego	*9.6*	*7.7*	7.4	5.2	1.8	1.9	9.2	7.0
Total	53.9	41.5	43.7	28.8	9.2	12.4	52.9	41.2

2008	Target		Reductions from Current Program		Reductions from Improvements		Total Reductions	
	ROG	NOx	ROG	NOx	ROG	NOx	ROG	NOx
South Coast	29.3	11.8	22.8	8.8	5.3/6.6*	5.5	28.1/29.3*	14.2
Ventura	1.2	2.0	0.9	1.2	0.2	0.6	1.1	1.8
Sacramento	[illegible]	7.0	3.3	3.4	0.9	2.0	4.3	5.4
San Joaquin	*4.0*	*6.4*	[illegible]	[illegible]	1.5	2.4	[illegible]	[illegible]
Antelope	0.5	*0.4*	0.3	0.3	0.1	0.1	0.5	0.4
Coachella	2.1	2.3	1.4	1.1	0.4	0.6	1.8	1.7
San Diego	*9.1*	*8.2*	6.7	5.0	1.8	2.4	8.6	7.4
Total	51.21	38.11	38.81	23.31	10.4/11.5*	13.7	49.2/50.4*	36.9

2010	Target		Reductions from Current Program		Reductions from Improvements		Total Reductions	
	ROG	NOx	ROG	NOx	ROG	NOx	ROG	NOx
South Coast	28.3	8.8	21.6	6.2	5.3/6.7*	5.1	26.9/28.3*	11.3
Ventura	1.1	1.8	0.8	1.0	0.2	0.6	1.0	1.6
Sacramento	[illegible]	6.4	3.0	2.9	0.7	2.0	3.7	5.0
San Joaquin	4.8)	5.91	*4.2*	*3.2*	*1.8*	*2.4*	*6.0*	5.6
Antelope	0.4	*0.4*	0.3	0.2	0.1	0.1	0.4	0.4
Coachella	1.5	2.2	1.3	1n	0.3	0.7	1.6	1.7
San Diego	*8.1*	7.1	6.1	4.2	1.5	2.3	7.6	6.5
Total	48.8	32.6	37.3	18.7	9.9/11.2*	13.2	47.2/48.6*	32.0

* Second number following "/" reflects benefits of near-term plus mid-term improvements for South Coast. The mid-term improvements do not depend upon legislative changes.

Mid-Term Smog Check II Improvements or Further Measures

The near-term Smog Check II improvements that we are committing to make, combined with the benefits from already adopted ARB measures, are sufficient to meet the State's emission reduction obligations for on-road motor vehicles in 2002 and 2005, in most areas. The Sacramento Region was able to demonstrate conformity in its most recent conformity analysis without the benefit of the near-term program improvements. However, the Sacramento Region and the San Joaquin Valley in 2005, and the South Coast in 2008 and 2010 will need further improvements to Smog Check II (or other measures) to meet their progress and attainment needs. We expect the upcoming SIP revision for the San Joaquin Valley will establish new commitments for emission reductions from the Smog Check II program in 2005.

ARB and BAR remain committed to fully satisfy the Smog Check II commitment for Sacramento in 2005, and the South Coast in 2008 and 2010. We are committed to secure these additional emission reductions by 2003, with implementation by 2004 for Sacramento and 2006 for South Coast.

ARB and BAR will work together to evaluate whether there are additional mid-term program improvements within BAR's authority that are feasible to implement to secure the needed emission reductions. Such improvements might include further tightening of inspection standards for all pollutants. If these emission reductions cannot be secured from within the Smog Check program, ARB will secure them from other mobile source measures that will enhance our existing SIP commitments. Based on our experience implementing California's inspection and maintenance program, we believe that additional improvements to the Smog Check II program can achieve the needed emission reductions for Sacramento in 2005 and the South Coast in 2008 and 2010. For conformity purposes, we are relying solely on program improvements within the existing authority of BAR.

The mid-teim program improvements could also be achieved through legislative action to increase the number of vehicles subject to the Smog Check II program. There is time for legislative proposals to be developed, approved, and implemented. Such proposals may include:

- Removing the rolling 30-year model year exemption. In 1997, the Legislature modified the Smog Check II program to exempt pre-1974 vehicles from the program. Beginning in January 2003, this legislation exempts motor vehicles 30 or more model-years old from all Smog Checks. Because older vehicles contribute a disproportionate amount of emissions (despite their relatively low numbers and use) excluding older vehicles from the program reduces the effectiveness of the Smog Check program. Eliminating the 30-year rolling exemption in order to keep all 1974 and newer vehicles in the program would achieve additional emission reductions in future years.

- Extending the program to all eligible vehicles registered in a nonattainment region already subject to Smog Check II. Because only urbanized areas of 50,000 or more are now subject to Smog Check II, not all vehicles in nonattainment areas are directed to loaded-mode testing. This creates inequities within the nonattainment area, particularly if many vehicles registered in the non-urbanized region commute into urban centers on a daily basis. This situation is particularly acute in the Sacramento Region because although the SIP assumed that 100 percent of the vehicles are subject to Smog Check II, in reality only the 79 percent within the Sacramento urbanized area are directed to loaded-mode testing. The other area that would significantly benefit from this proposal would be the San Joaquin Valley. Currently only 69 percent of the vehicles in the San Joaquin Valley nonattainment area are directed to loaded-mode testing.

In addition to the program improvements listed above, ARB and BAR are in the process of addressing a number of administrative loopholes, through which vehicles could evade the program, thereby reducing the benefits of the program. These loopholes, which include vehicles with incorrect ZIP codes, mismatched vehicle identification numbers, and incorrect Smog Check due dates in the DMV database, result **in** vehicles not being directed to obtain the proper Smog Check inspections. ARB and BAR are working closely with DMV to identify and correct these administrative loopholes.

The Bureau of Automotive Repair and the Air Resources Board **will work together to** ensure that the near-term improvements to the Smog Check II program are implemented on the schedule described in this attachment. We will also secure the remaining emission reductions needed to satisfy the Smog Check commitment for Sacramento in 2005, and South Coast in 2008 and 2010, through either mid-term program improvements or other measures.

/s/ 8/17/00

Douglas Laue, Chief
Bureau of Automotive Repair

Date

/s/ 8/17/00

Michael P. Kenny, Executive Officer
Air Resources Board

Date

ATTACHMENT B
QUANTITATIVE SUMMARY OF TRANSPORTATION CONFORMITY APPROACH

(South Coast Air Basin in 1999 SIP Currency)

State and Federal SIP Commitments								
On-Road Mobile Source Measures*	Emission Reductions (TPD)							
	2002		2005		2008		2010	
	ROG	NOx	ROG	NOx	ROG	NOx	ROG	NOx
Smog Check II	32.5	25.8	31.0	18.1	29.3	11.8	28.3	8.8
Light-Duty: M1 Scrap M2 LEVII	11.8	5.9	13.3	8.7	17.6	13.4	19.4	17.1
Heavy-Duty Diesel: M4 Incentives M5 State Standard M6 Federal Standard	–	11.8	–	31.1	5.8	44.2	7.8	51.7
Long-Term Commitments:								
M17 Heavy-Duty Diesel Reductions	–	–	–	4.0	1.0	9.0	1.0	10.0
Advanced Technology	–	–	–	–	–	–	36.8	6.3
TOTAL ON-ROAD COMMITMENT	**44.3**	**43.5**	**44.3**	**61.9**	**53.7**	**78.4**	**93.3**	**93.9**

Reductions Creditable Toward State **and Federal SIP Commitments**								
Adopted SIP Measures								
– Smog Check II	24.9	21.0	25.5	14.2	22.8	8.8	21.6	6.2
– Light-Duty: MI Scrap M2 LEVII	0	0	0.4	4.4	2.5	26.1	4.1	42.9
– Heavy-Duty Diesel: M4 Incentives M5 State Standard M6 Federal Standard	4.7	5.5	5.3	26.6	5.8	43.4	5.9	55.9
– *Subtotal for Adopted SIP Measures*	*29.6*	26.5	31.2	45.2	31.1	78.3	31.6	*105.0*
Adopted Supplemental Measures								
– Cleaner Gasoline (3 measures)	13.5	15.2	10.4	17.2	7.9	13.1	6.6	10.7
– Motorcycles	0	0	0	0	0.3	0	0.8	0.2
– Urban Transit Buses	NQ**	NQ	NQ	NQ	NQ	NQ	0	2.0
– National Heavy-Duty Gas Standards	–	–	NQ	NQ	NQ	NQ	0.2	1.0
– *Subtotal for Adopted New Measures*	*13.5*	*15.2*	*10.4*	*17.2*	*8.2*	*13.1*	*7.6*	*13.9*
Smog Check Improvements + Future Supplemental Measures								
– Smog Check Improvements'*	2.1	5.1	4.8	6.2	6.5	5.5	6.7	5.1
– Future Supplemental Measures	–	–	–	–	6.9	NQ	9.6	NQ
– *Subtotal*	*2.1*	*5.1*	*4.8*	*6.2*	*13.4*	*5.5*	*16.3*	*5.1*
Long-Term Measures								
– M17 Heavy-Duty Diesel Reductions	–	–	–	4.0	1.0	9.0	1.0	10.0
– Advanced Technology	–	–	–	–	–	–	36.8	0
– *Subtotal*	–	–	–	*4.0*	*1.0*	*9.0*	*37.8*	*10.0*
TOTAL CREDITABLE REDUCTIONS**	**45.2**	**46.8**	**46.4**	**72.6**	**53.7**	**105.9**	**93.3**	**134.0**
SHORTFALL	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

I Measures M-3 and M-8 are not shown because they are baseline measures in the South Coast's 1999 SIP. Measures M-3 and M-8 have shortfalls in some years relative to the commitments in the 1994 SIP.

**NQ = not quantified.

'"Smog Check improvements do not depend on legislative changes.

-*Creditable reductions beyond these SIP commitments are needed to cover shortfalls in State/federal measures for other categories or sources that do not affect transportation conformity.

ATTACHMENT C
ADOPTED SUPPLEMENTAL MEASURES

Since development of the 1994 California State Implementation Plan (SIP) for Ozone, the Air Resources Board (ARB or the Board) has adopted eleven measures specifically described in that plan. The Board has also adopted many supplemental measures to reduce emissions from on-road and off-road mobile sources, including their fuels. We summarize the adopted supplemental measures below, including one promulgated at the national level, but not yet made enforceable by the State. Measures that reduce on-road vehicle emissions reflected in the applicable SIP baseline and are currently credited in conformity assessments are described in the first section. The second section discusses additional measures, which are not creditable for conformity, but illustrate ARB's ability to develop and adopt continuing regulatory enhancements on a timely and efficient basis.

Measures **Creditable for Transportation Conformity**

- **Control of gasoline combustion chamber deposits.** When oil refiners began producing Phase 2 cleaner-burning gasoline in 1996, they included deposit control additives to reduce combustion chamber deposits. These additives were not required by State regulation, but resulted in a decrease in NOx emissions from light and medium-duty vehicles. In 1998, the Board adopted regulations to require deposit-control additives in cleaner-burning gasoline, and assure the benefits of reduced combustion chamber deposits.

- **In-use benefits of Phase II cleaner burning gasoline.** Legislation signed in 1999 (SB 989, Sher) effectively "locks-in" the benefits of 1998 in-use fuel. Studies by ARB staff indicated that California gasoline in 1998 and 1999 was much cleaner than assumed in the 1994 SIP. Refiners certified cleaner gasoline blends than required, and produced cleaner fuels than certified.

- **Phase III cleaner burning gasoline regulations.** In 1999, the Board adopted Phase III gasoline regulations, beginning in 2003. The regulation enables refiners to produce gasoline without MTBE while providing additional air quality benefits.

- **On-road motorcycle emission..standards.** In 1998, ARB adopted regulations for larger on-road motorcycles. Since ARB's adoption of the original motorcycle regulations in 1975, technological advances have shown that additional, cost-effective emission reductions are now possible. The regulations will result in a substantial reduction in hydrocarbons and, for the first time, set a standard for NOx emissions from these vehicles. The new standards will be phased-in over two tiers, with Tier 1 standard beginning in 2004 and a tighter Tier 2 beginning in 2008.

- **Emission standards for heavy-duty gasoline engines.** In 2000, the U.S. Environmental Protection Agency (U.S. EPA) adopted more stringent emission standards for new heavy-duty gasoline engines, beginning with the 2005 model year. ARB will make these standards enforceable -- in the same timeframe -- as part of our proposal for more stringent emission standards for 2007 and later model year heavy-duty diesel engines.

- **Emission standards for urban transit buses. In 2000, the Board approved a** public transit bus fleet rule and emissions standards for new urban buses beginning in 2002. This regulation requires a progressively cleaner fleet through retrofits for existing buses and tighter standards for new buses, including the introduction of zero-emission buses into the fleet by the end of the decade.

Measures Not Creditable for Transportation Conformity

- **Control of emissions from aggressive driving and air-conditioner usage.** In 1997, ARB adopted regulations to control emissions that occur when a vehicle is operated outside the Federal Test procedure, beginning in 2001. **This** procedure is a narrowly defined test used in certifying new vehicles to exhaust emission standards. Two supplemental test procedures -- a high-speed, high-acceleration test and an air conditioner test -- are used to control excess emissions that occur during "off-cycle" operation.

- **Marine pleasurecraft.** In 1998, ARB adopted emission standards for outboard marine and personal watercraft engines beginning in 2001. In addition to air quality benefits, these standards help avoid water contamination problems by significantly reducing the amount of unburned fuels released into the water.

- **Portable fuel containers.** In 1999, the Board approved a regulation requiring **that new portable fuel containers be spill-proof and less permeable beginning in** 2001. These new containers, used to refuel lawn and garden equipment, motorcycles, and watercraft, will employ an automatic shut-off feature to **eliminate spillage.**

- **Enhanced vapor recovery program. In 2000, the Board adopted more** stringent standards and new equipment specifications for vapor recovery systems beginning in 2001. These improvements will reduce spillage and evaporation from gasoline nozzles, make vapor recovery systems compatible with the on-board vapor recovery systems on motor vehicles, and **require** monitoring to ensure vapor recovery equipment systems work in the field.

ATTACHMENT D
FUTURE SUPPLEMENTAL MEASURES

The Air Resources Board (ARB or Board) will develop further supplemental measures to complete our emission reduction commitments and address remaining shortfalls for defined State strategies in 2008 and 2010 for the South Coast. We will adopt these measures between 2000 and 2003, for implementation by 2006.

In most cases, ARB has already taken initial action to adopt each specific measure described in the original 1994 SIP. If an adopted measure does not achieve the full reductions in the SIP, supplemental measures would complete the emission reduction commitment. Based on our experience developing, adopting, and implementing mobile source control measures for the State of California, we believe that further supplemental measures can deliver the emission reductions needed to complete our emission reduction commitments.

We intend to reconcile changes made to the emission reduction strategy for the South Coast in an upcoming, comprehensive ozone SIP revision. The SIP revision will also incorporate the latest emission inventory estimates and new modeling based on the data collected during the 1997 Southern California Ozone Study. It will reassess the emission reductions needed to attain the federal one-hour ozone standard in the South Coast in **2010** based on this updated information, and it will include enforceable commitments to achieve those emission reductions.

Following a description of the original SIP measure, we identify some of the supplemental measures we will pursue to fulfill remaining, defined State commitments for emission reductions from on-road mobile sources.

1. LIGHT-DUTY VEHICLES (SIP Measures M-l and M-2)

A. Description of SIP Measures

The SIP included two ARB measures aimed at reducing emissions from new and in-use light-duty vehicles. Although the SIP commitments focused on passenger cars and light-duty trucks, the vehicle category also includes on-road motorcycles. Measure M-l called for accelerated retirement of cars and light trucks. ARB has adopted implementing regulations for this program, however we must secure additional emission reductions to meet the SIP target. Measure M-2 called for improved control technology for new light-duty vehicles. ARB adopted the initial Low-Emission Vehicle II-(LEV II) regulations under M-2 in September 1998, two years earlier than envisioned in the SIP. Although the LEV II program provided greater than anticipated NOx benefits, we must secure additional emission reductions to meet the SIP target for ROG.

B. Supplemental Measures

- **Enhancements to the Low Emission Vehicle II Program for light-duty vehicles.** ARB will evaluate the feasibility and pursue potential emission benefits from reducing in-use running loss evaporative emissions from passenger cars and trucks. This approach would rely on the improved control technology envisioned in Measure M-2. This supplemental measure would require ARB regulatory action within the Board's authority.

- **Evaporative emission controls for on-road motorcycles.** ARB will evaluate the feasibility and pursue potential emission benefits from reducing evaporative emissions from motorcycles. This approach would rely on the improved control technology envisioned in Measure M-2. This supplemental measure would require ARB regulatory action within the Board's authority.,

2. MEDIUM-DUN VEHICLES (SIP Measure M-3)

A. Description of SIP Measure

Measure M-3 was based on accelerated implementation of tighter emission standards for new medium-duty vehicles. ARB adopted the measure, but additional emission reductions would help meet the original 1994 SIP target due to a calculation error that overestimated the benefits of this strategy.

B. Supplemental Measure

- **Enhancements to the Low Emission Vehicle II Program for medium-duty vehicles.** ARB will pursue aligning the LEV II standards with the federal Tier II motor vehicle standards for several sub-categories of medium-duty vehicles where the federal standards are being phased-in faster than California standards. This approach would rely on accelerated implementation of emission standards for new medium-duty vehicles as described in Measure M-3. This supplemental measure would require ARB regulatory action within the Board's authority.

3. HEAVY-DUTY GASOLINE TRUCKS (SIP Measure M-8)

A. Description of SIP Measure

Measure M-8 anticipated tighter emission standards for new heavy-duty gasoline trucks. ARB adopted this measure.

B. Supplemental Measure

- Further new emission standards for heavy-duty gas **trucks.** ARB will pursue lower heavy-duty gas engine emission standards patterned after U.S. EPA's recently signed final rule. This approach would rely on tighter emission standards for new heavy-duty gas trucks as described in Measure M-8. This supplemental measure would require ARB regulatory action within the Board's authority.

4. HEAVY-DUTY **TRUCKS AND BUSES (SIP Measures M-4, M-5, M-7/M-17, plus M-6)**

A. Description of SIP Measures

Three State measures in the SIP address emissions from heavy-duty trucks and buses. Measure M-4 called for incentives to increase the use of low-emission engines in existing heavy-duty diesel trucks and buses. ARB adopted guidelines for the Carl Moyer incentive program to implement this measure and the California Legislature has provided three years of funding thus far. **SIP** Measure M-5 describes tighter emission standards for new diesel engines in California or **"**. . . implementation of alternative measures which achieve equivalent or greater reductions." [Measure M-6 described the expected benefits of the same tighter national emission standards.] ARB and U.S. EPA have both adopted emission standards and settlement agreements with engine manufacturers that are consistent with Measures M-5 and M-6.

ARB withdrew the third State measure, M-7, which anticipated an accelerated retirement program for heavy-duty diesel engines. We replaced M-7 with the Board's commitment for new measure M-17 and submitted these changes to U.S. EPA in 1998 as revisions to the SIP. Measure M-17 is a longer-term commitment to reduce emissions from heavy-duty diesel engines through in-use compliance programs and further incentives.

B. Supplemental Measures

- **Emission reductions from school buses.** ARB will develop guidelines for implementing a program designed to encourage school districts to replace older school buses with new, lower-emitting school buses or install particulate matter retrofits on existing buses. The Governor has included $50 million in the FY 2000-2001 budget for this program. This approach relies on incentives to increase the use of low-emitting engines and control technologies in the existing school bus fleet, consistent with the incentive programs described in Measure M-4. This supplemental measure will require ARB to adopt guidelines for use of the funds, which is within the Board's authority. The program will be a cooperative effort between the California Energy Commission, ARB, and the local air districts.

- **Retrofit in-use** diesel engines with particulate filters. Use of low-sulfur diesel fuel opens up the opportunity to reduce emissions from existing diesel engines through in-use controls such as particulate filters. ARB will pursue measures for implementation after the introduction of low-sulfur diesel fuel. This approach is consistent with the incentive programs described in Measure M-4 and the "alternative measures" described in Measure M-5 for these sources. This supplemental measure would likely require ARB regulatory action; such action is within the Board's authority.

- **Cleaner diesel fuel.** U.S. EPA has proposed to require cleaner diesel fuel nationwide starting in 2006, and expects to promulgate the regulation by the end of 2000. ARB will adopt the specifications for use in California. This approach is consistent with the "alternative measures" described in Measure M-5. This supplemental measure would require ARB regulatory action that is within the Board's authority.

- **Diesel truck standards.** U.S. EPA has proposed lower emission standards for 2007 and later heavy-duty diesel trucks, and expects to promulgate the regulation by the end of 2000. ARB will adopt these standards for new engines sold in California. This approach would rely on tighter State and national emission standards for new heavy-duty diesel trucks, as described in Measures M-5 and M-6. This supplemental State measure would require ARB regulatory action that is within the Board's authority.

- **Limit heavy-duty diesel truck idling.** ARB will pursue restrictions on truck idling to reduce ROG and NOx emissions, as well as particulate matter. This approach is consistent with the "alternative measure& described in M-5 for these sources. This supplemental measure would require ARB regulatory action that is within the Board's authority to regulate toxic air contaminants, and would also provide reductions of criteria pollutants.

ATTACHMENT E
2001 COMPREHENSIVE OZONE STATE IMPLEMENTATION PLAN REVISION FOR THE SOUTH COAST AIR BASIN

California has previously stated its intent to develop a major revision to the ozone State Implementation Plan (SIP) for the South Coast Air Basin. This SIP revision will incorporate the latest emission inventory estimates and new modeling based on the data collected during the 1997 Southern California Ozone Study. It will reassess the emission reductions needed to attain the federal one-hour ozone standard in the South Coast in 2010 based on this updated information, and it will include enforceable commitments to achieve those emission reductions. We intend to submit this comprehensive revision to the U.S. Environmental Protection Agency before the end of the 2001 calendar year.

This attachment includes documentation from the agencies responsible for SIP preparation in this region -- the South Coast Air Quality Management District, the Southern California Association of Governments, and the Air Resources Board. Each agency has committed in writing that we will collectively develop, adopt, and submit the comprehensive ozone SIP revision for the South Coast in 2001, with local adoption in October 2001. The following documents are included:

- August 11, 2000 letter from Barry R. Wallerstein, D.Env, Executive Officer of the South Coast Air Quality Management District to Michael Kenny, Executive Officer of the Air Resources Board

- August 16, 2000 letter from Mark Pisano, Executive Director of the Southern California Association of Governments to Felicia Marcus, Regional Administrator, U.S. Environmental Protection Agency - Region IX

- January 27, 2000 Air Resources Board Resolution 004

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ston H. Hickox
ncy Secretary

Air Resources Board

Alan C. Lloyd, Ph.D.
Chairman
2020 L Street • P.O. Box 2815 • Sacramento, California 95812 • www.arb.ca.gov

Gray Davis
Governor

April 17, 2000

Mr. Mark Pisano
Executive Director
Southern California Association of Governments
818 West Seventh Street, Twelfth Floor
Los Angeles, California 90017-3435

Dear Mr. Pisano:

With this letter, we are transmitting the Air Resources Board's (ARB's) preliminary updates to the emission control factors your agency uses to assess the conformity of your region's transportation plan and program with the State Implementation Plan (SIP), Conformity assessments rely on the California on-road motor vehicle emissions inventory model that was the basis for the region's SIP, supplemented by external control factors to account for additional vehicle and fuels measures not reflected in the model. The emission reductions expected from California's Enhanced Vehicle Inspection and Maintenance (I/M) Program – or Smog Check II – are key to the SIP.

The enclosed control factors are applicable to the output of the appropriate version of the emissions model (EMFAC7F or EMFAC7G), in the inventory "currency" of the applicable SIP for each nonattainment area. We provide factors for each of the federally-defined milestone years from 2002 out to 2010, for the ozone precursors -- hydrocarbons or reactive organic gases (ROG) and nitrogen oxides (NOx). Consistent with existing procedures, the 2010 factors should also be used for post-2010 analyses. The enclosed control factors replace the ones we transmitted in 1996.

Enhanced I/M Program Evaluation

Under State and federal law, ARB is required to evaluate and report on the effectiveness of the Enhanced I/M program. The draft report compares the current program against our expectations at the time the program was included in the State Implementation Plan (SIP), We used a California-specific method to develop a realistic, quantitative assessment of the program. The draft report will be released shortly for review and comment on our website at http://www.arb.ca.gov/html/smog.htm along with notice of a public workshop. We expect to provide a final report to the Legislature and the U.S. Environmental Protection Agency in June 2000.

The preliminary factors are consistent with the upcoming draft report, relying on data from random roadside inspections to assess benefits of Enhanced I/M in 1999, and the

draft EMFAC2000 model to project program benefits in the future. We converted the results back into the appropriate SIP currency so the **factors** can be applied directly to **the** model output. The results show a shortfall in the anticipated emission reductions from the Enhanced I/M program in some areas and years, based on program implementation actions and legislative changes. The draft evaluation **report** describes each of the elements that contributed to the Enhanced I/M shortfall in 1999. Because the State lowered the NOx cut points following the roadside testing, the existing program is achieving more NOx benefits today than **in** 1999. This improvement is reflected in the enclosed preliminary control **factors,**

Following release of the final Enhanced I/M report, we will communicate **with** you in writing to either: (1) confirm that the preliminary control factors remain appropriate, or (2) provide revised factors based **on** any anticipated improvements in **the effectiveness** of the Enhanced I/M program **in future years.**

Benefits of Other Vehicles and Fuels Measures

We have also examined the current and projected effectiveness **of the rest of** California's **motor vehicle** and fuels program in reducing on-road motor vehicle emissions, relative to each area's SIP commitments. ARB's programs are providing additional **reductions** not previously relied upon **in the SIP that help mitigate any** shortfall from the Enhanced I/M program. The enclosed control factors include the **full** benefit of these adopted measures and enforceable **SIP** commitments for use in conformity assessments. Where net shortfalls do **exist and affect your ability to** demonstrate conformity, we will work with you to address them.

Finally, because the preliminary control **factors for the Enhanced I/M program are** based **on the draft** program evaluation, **we** may need **to revise the factors based on the final report.**

Basic I/M Program Evaluation

The updated **conformity factors for each nonattainment region account for the subset of** the **fleet** that is **within the urbanized portion** and therefore subject **to Enhanced I/M. We** are also addressing questions about **the** effectiveness of California's **Basic I/M program that** applies outside the urbanized areas and in less polluted **nonattainment** regions.

Since EMFAC7F and EMFAC7G emission models were developed, **there** have **also** been changes to the Basic I/M program. These changes include **legislative exemption of the** oldest and newest vehicles **from the program, as well as the addition of an** inspection **for excess** evaporative emissions **based on** a **gas cap check. Based on** the latest vehicle testing reflected **in the draft** EMFAC2000 model, we conclude **that the** Basic I/M program being implemented today is providing emission reductions at least equal to the levels assumed for the 1990 Basic I/M program in the EMFAC7F and

EMFAC7G models. Thus, there is no need to adjust the model outputs used in your conformity assessments for the Basic I/M areas.

There is no net loss of ROG reductions under the current Basic program, even with the vehicle exemptions, because of the added gas cap testing and repair to reduce evaporative emissions. There is a small reduction in NOx emissions from exempting just the subset of pre-1974 vehicles from the Basic test program because repairs made to lower ROG and carbon monoxide emissions in older carbureted vehicles tend to increase NOx emissions. We will re-evaluate these conclusions after the EMFAC2000 model is finalized, and advise you if there are any changes that may impact your conformity assessments.

If you have questions about this letter, please contact me at (916) 445-4383 or have your staff contact Ms. Cynthia Marvin, Chief, Air Quality and Transportation Planning Branch, at (916) 322-7236.

Sincerely,

Michael P. Kenny
Executive Officer

Enclosure

cc: See next page.

cc: (w/enclosures)
Mr. Richard H. Baldwin
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Control Factors for California Ozone SIP Measures*

'Antelope Federal Nonattainment Area 2002

	HD Diesel Adjustments	Enhanced Insp/Maint	State/Fed Measures	Total Factor
ROG				
Light Duty Passenger and Trucks	0.000	0.106	0.046	0.152
Medium Duly Trucks	0.000	0.092	0.056	0.150
Heavy-Duty Gasdlne Trucks	0.000	0.044	0.058	0.102
Heavy-Duly Diesel Vehicles	0.445	0.000	0.149	0.594
Motorcycles	0.000	0.000	0.036	a.036
NOx				
Light Duly Passenger and Trucks	0.000	0.095	0.045	0.140
Medium Duty Trucks	0.000	0.064	0.106	0.190
Heavy-Duty Gasdlne Trucks	0.000	0.000	0.104	0.104
Heavy-Duty Diesel Vehicles	0.083	0.000	0.039	0.122
Motorcycles	0.000	0.000	0.050	0.050

'Apply these fractions to emissions eslimales by vehicle class to calculate emission reductions from state and federal measures not accounted from in EMFAC 7F.

Control factors updated April 17, 2000.

4/17/00

Control Factors for California Ozone SIP Measures'

Antelope Federal Nonattainment Area 2005

	HD Diesel Adjustments	Enhanced Insp/Maint	State/Fed Measure-s '	Total Factor
ROG				
Light Duty Passenger and Trucks	0.000	0.109	0.047	0.156
Medium Duty Trucks	0.000	0.087	0.100	0.187
Heavy-Duty Gasoline Trucks	0.000	0.048	0.065	a.132
Heavy-Duty Diesel Vehicles	0.484	0.000	0.151	0.635
Motorcycles	0.000	0.000	0.095	0.095
NOx				
Light Duty Passenger and Trucks	0.000	0.096	0.077	0.173
Medium Duty Trucks	0.000	0.091	0.227	0.318
Heavy-Duty Gasoline Trucks	0.000	0.000	0.206	0.206
Heavy-Duty Diesel Vehtdes	0.131	0.000	0.178	0.309
Motorcycles	0.000	0.000	0.125	0.125

*Applythesefractionsto emissions estimates by vehicle class to calculate emission reductions from stale and federal measures not accounted from in EMFAC 7F.

Control factors updated April 17, 2000.

4117100

Control Factors for California Ozone SIP Measures*

Antelope federal Nonattainment Area 2007

	HD Diesel Adjustments	Enhanced Insp/Maint	State/Fed Measures	Total Factor
ROG				
Light Duty Passenger and Trucks	0.000	0.122	0.063	0.185
Medium Duty Trucks	0.000	0.105	0.174	0.279
Heavy-Duty Gasoline Trucks	0.000	0.051	0.100	0.151
Heavy-Duty Diesel Vehicles	0.501	0.000	0.155	0.656
Motorcycles	0.000	0.000	0.290	0.290
NOx				
Light Duty Passenger and Trucks	0.000	0.099	0.184	0283
Medium Duty Trucks	0.000	0.107	0.432	0.538
Heavy-Duty Gasoline Trucks	0.000	0.000	0.253	a.253
Heavy-Duty Diesel Vehides	0.141	0.000	0.232	0.373
Motorcycles	0.000	0.000	0.237	0.237

'Apply these tractions lo emissions estimates by vehicle class to calculate emission reduclions from state and federal measures not accounted from in EMFAC 7F.

Control factors updated April 17, 2000.

4117100

Control Factors for California Ozone SIP Measures*

Antelope Federal Nonattainment Area 2010

	HD Diesel Adjustments	Enhanced Insp/Maint	State/Fed Measures	Total Factor
ROG				
Light Duty Passenger and Trucks	0.000	0.126	0.003	0.209
Medium Duty Trucks	0.000	0.084	0258	0.342
Heavy-Duly Gasoline Trucks	0.000	0.053	0.130	0.103
Heavy-Duty Diesel Vehicles	0.517	0.000	0.158	0.675
Motorcycles	0.000	0.000	0.444	0.444
NOx				
Light Duty Passenger and Trucks	0.000	0.090	0.290	0.380
Medium Duly Trucks	0.000	0.007	0.569	0.655
Heavy-Duty Gasoline Trucks	0.000	0.000	0.296	0.296
Heavy-Duty Diesel Vehicles	0.159	0.000	0.302	0.461
Motorcycles	0.000	0.000	0.358	0.359

*Apply these fractions lo emissions estimates by vehicle class lo calculate emission reductions from state and federal measures not accounted from in EMFAC 7F.

Control factors updated April 17, 2000.

4117100

Control Factors for California Ozone SIP Measures+

Coachella Federal Nonattainment Area 2002

	HO Diesel Adjustments	Enhanced Insp/Maint	State/Fed Measures	Total Factor
ROG				
Light Duty Passenger and Trucks	0.000	0.098	0.045	0.144
Medium Duty Trucks	0.000	0.082	0.059	0.141
Heavy-Duty Gasoline Trucks	0.000	0.046	0.058	0.104
Heavy-Duty Diesel Vehicles	0.445	0.000	0.149	0.594
Motorcycles	0.000	0.000	0.038	0.038
NOx				
Light Duty Passenger and Trucks	0.000	0.079	0.046	0.125
Medium Duty Trucks	0.000	0.069	0.108	0.177
Heavy-Duty Gasoline Trucks	0.009	0.000	0.104	0.104
Heavy-Duty Diesel Vehicles	0.063	0.000	0.028	0.111
Motorcycles	0.000	0.000	0.050	0.050

'Apply these fractions to emissions estimates by vehicle class to calculate emission reductions from state and federal measures not accounted from in EMFAC 7F.

Control factors updated April 17, 2000.

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Control Factors for California Ozone SIP Measures*

Coachella Federal Nonattainment Area

2005

	HO Diesel Adjustments	Enhanced Insp/Maint	State/Fed Measures	Total Factor
ROG				
Light Duty Passenger and Trucks	0.000	0.103	0.047	0.150
Medium Duty Trucks	0.000	0.083	0.100	0.183
Heavy-Duty Gasoline Trucks	0.000	0.047	0.085	0.132
Heavy-Duty Diesel Vehicles	0.484	0.000	0.151	0.635
Motorcycles	0.000	0.000	0.098	0.098
NOx				
Light Duty Passenger and Trucks	0.000	0.080	0.077	0.157
Medium Duty Trucks	0.000	0.075	0.267	0.341
Heavy-Duty Gasoline Trucks	0.000	0.000	0.253	0.253
Heavy-Duty Diesel Vehicles	0.141	0.000	0221	0.362
Motorcycles	0.000	0.000	0.125	0.125

*Apply these fractions to emissions estimates by vehicle class to calculate emission reductions from state and federal measures not accounted from in EMFAC 7F.

Control factors updated April 17, 2000.

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Control Factors for California Ozone SIP Measures*

Coachella Federal Nonattainment Area 2007

	HD Diesel Adjustments	Enhanced Insp/Maint	State/Fed Measures	Total Faclar
ROG				
Light Duty Passenger and Trucks	0.000	0.117	0.063	0.180
Medium Duly Trucks	0.000	0.090	0.175	0.271
Heavy-Duty Gasoline Trucks	0.000	0.040	0.104	0.152
Heavy-Duty Diesel Vehicles	0.501	0.000	0.155	0.656
Motorcycles	0.000	0.000	0.290	0.290
NOx				
Light Duty Passenger and Trucks	0.000	0.003	0.187	0.270
Medium Duty Trucks	0.000	0.088	0.441	0.528
Heavy-DutyGasolineTrucks	0.000	0.000	0.254	0.254
Heavy-Duly Diesel Vehides	0.141	0.000	0.221	0.362
Motorcydes	0.000	0.000	0.237	0.237

'Apply these fractions lo emissions estimates by vehicle class to calculale emission reductions from state and federal measures not accounted from in EMFAC 7F.

Control factors updated April 17, 2000.

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Control factors for California Ozone SIP Measures+

Coachella Federal Nonattainment Area 2010

	HD Diesel Adjustments	Enhanced Insp/Maint	State/Fed Measures	Total Factor
ROG				
Light Duty Passenger and Trucks	0.000	0.122	0.082	0.204
Medium Duty Trucks	0.000	0.078	0.261	0.339
Heavy-Duty Gasoline Trucks	0.000	0.048	0.134	0.182
Heavy-Duty Diesel Vehicles	0.517	0.000	0.158	0.675
Motorcycles	0.000	0.000	0.443	0.443
NOx				
Light Duty Passenger and Trucks	0.000	0.075	0.293	0.368
Medium Duly Trucks	0.000	0.071	0.570	0.650
Heavy-Duty Gasoline Trucks	0.000	0.000	0.296	0.296
Heavy-Duty Diesel Vehicles	0.159	0.000	0.296	0.455
Motorcycles	0.000	0.000	0.356	0.358

'Apply these fractions to emissions estimates by vehicle class to calculate emission reductions from stale and Federal measures not accounted from in EMFAC 7F.

Control factors updated April 17, 2000.

4/17/00

Control Factors for Californ' ia Ozone SIP Measures+

Ventura Federal Nonattainment Area 2002

	HD Diesel Adjustments	Enhanced Insp/Maint	Slate/Fed Measures	Total Factor
ROG				
Light Duty Passenger and Trucks	0.000	0.095	0.041	0.136
Medium Duty Trucks	0.000	0.085	0.058	0.143
Heavy-Duty Gasoline Trucks	0.000	0.043	0.058	0.102
Heavy-Duly Diesel Vehicles	0.445	0.000	0.149	0.594
Motorcycles	0.000	0.000	0.037	0.037
NOx				
Light Duty Passenger and Trucks	0.000	0.091	0.045	*0.136*
Medium Duty Trucks	0.000	0.080	0.106	0.186
Heavy-Duty Gasoline Trucks	0.000	0.000	0.104	0.104
Heavy-Duty Diesel Vehldes	0.084	0.000	0.034	0.118
Motorcycles	0.000	0.000	0.050	0.050

*Apply these fractions to emissions estimates by vehicle class to calculate emission reductions from slate and federal measures not accounted from in EMFAC 7F.

Control factors updated April 17, 2000.

4117100

Control Factors for California Ozone SIP Measures*

Ventura Federal Nonattainment Area — 2005

	HD Diesel Adjustments	Enhanced Insp/Maint	State/Fed Measures	Total Factor
ROG				
Light Duly Passenger and Trucks	0.000	0.094	0.042	0.136
Medium Duty Trucks	0.000	0.071	0.109	0.180
Heavy-Duty Gasoline Trucks	0.000	0.045	0.089	0.134
Heavy-Duty Diesel Vehicles	0.464	0.000	0.151	0.636
Motorcycles	0.000	0.000	0.096	0.096
NOx				
Light Duly Passenger and Trucks	0.000	0.092	0.077	0.169
Medium Duty Trucks	0.000	0.086	0.228	0.314
Heavy-Duty Gasoline Trucks	0.000	0.000	0.208	0.208
Heavy-Duty Diesel Vehicles	0.131	0.000	0.172	0.303
Motorcycles	0.000	0.000	0.125	0.125

*Apply these fractions to emissions estimates by vehicle class to calculate emission reductions from state and federal measures not accounted from in EMFAC 7F.

Control factors updated April 17,. 2000.

Control Factors for California Ozone SIP Measures*

Ventura Federal Nonattainment Area

2008

	HD Diesel Adjustments	Enhanced Insp/Maint	State/Fed Measures	Total Factor
ROG				
Light Duty Passenger and Trucks	0.000	0.105	0.059	0.164
Medium Duty Trucks	0.000	0.089	0204	0.293
Heavy-Duty Gasoline Trucks	0.000	0.050	0.111	0.162
Heavy-Duty Diesel Vehicles	0.501	0.000	0.155	0.656
Motorcycles	0.000	0.000	0.289	0.289
NOx				
Light Duty Passenger and Trucks	0.000	0.095	0.166	0.281
Medium Duty Trucks	0.000	0.101	0.434	0.536
Heavy-Duty Gasoline Trucks	0.000	0.000	0.254	a.254
Heavy-Duty Diesel Vehicles	0.141	0.000	0.226	0.367
Motorcycles	0.000	0.000	0.237	0.237

*Apply these fractions to emissions estimates by vehicle class to calculate emission reductions from state and federal measures not accounted from in EMFAC 7F.

Control factors updated April 17, 2000.

4117100

Control Factors for California Ozone SIP Measures*

South Coast Nonattainment Area 2002

	Enhanced Insp/Maint**	State/Fed Measures	Total Factor
. ROG			
Light Duty Passenger and Trucks	**-0.035**	**0.052**	**0.016**
Medium **Duty Trucks**	**-0.033**	**0.046**	**0.014**
Heavy-Duty Gasoline Trucks	**0.010**	**0.049**	**0.058**
Heavy-Duty Diesel Vehides	**0.000**	**0.219**	**0.279**
Motorcycles	**0.000**	**0.038**	**0.038**
NOx			
Light Duty Passenger **and Trucks**	**-0.020**	0.051	0.031
Medium Outy Trucks	-0.008	0.050	**0.042**
Heavy-Duly Gasoline Trucks	**0.000**	**0.050**	**0.050**
Heavy-Duty Diesel Vehides	0.000	**0.028**	**0.028**
Motorcycles	0.000	**0.050**	**II.050**

'**Apply** these fractions to emissions **estimates** by vehicle **class to calculate** emission reductions from state and federal measures not accounted from in EMFAC 7G.

"Negative control **factors** for **I/M indicate** increased emissions over those in **the** EMFAC 7G **baseline**.

Control **factors updated April 17.2000.**

April 17, 2000

Control Factors for California Ozone SIP Measures*

Ventura Federal Nonatlainment Area 2010

	HD Diesel Adjustments	Enhanced Insp/Maint	State/Fed Measures	Total Factor
ROG				
Light Duty Passenger and Trucks	0.000	0.106	0.078	0.184
Medium Duty Trucks	0.000	0.065	0.304	0.370
Heavy-Duty Gasoline Trucks	0.000	0.054	0.144	0.198
Heavy-Duly Diesel Vehides	0.517	0.000	0.158	0.675
Motorcycles	0.000	0.000	0.442	0.442
NOx				
Light Duty Passenger and Trucks	0.000	0.006	0.290	0.376
Medium Duty Trucks	0.000	0.002	0.571	0.654
Heavy-Duty Gasoline Trucks	0.000	0.000	0.296	0.296
Heavy-Duty Diesel Vehides	0.159	0.000	0.290	0.457
Motorcycles	0.000	0.000	0.358	0.358

*Apply these fractions lo emissions estimates by vehicle class lo calculate emission reductions from state and federal measures not accounted from in EMFAC 7F.

Control factors updated April 17, 2000.

4117100

Control Factors for California Ozone SIP Measures*

South Coast Nonattainment Area 2005

	Enhanced Insp/Maint**	State/Fed Measures	Total Factor
ROG			
Light Duty Passenger and Trucks	-0.054	0.055	0.001
Medium Duty Trucks	-0.039	0.007	0.046
Heavy-Duty Gasoline Trucks	-0.010	0.051	0.041
Heavy-Duty Diesel Vehicles	0.000	0.373	0.373
Motorcycles	0.000	0.048	0.048
NOx			
light Duty Passenger and Trucks	-0.018	0.086	0.069
Medium Duty Trucks	-0.007	0.107	0.100
Heavy-Duty Gasoline Trucks	0.000	0.069	0.069
Heavy-Duty Diesel Vehicles	0.000	0.190	0.190
Motorcycles	0.000	0.069	0.069

*Apply these fractions to emissions estimates by vehicle class to calculate emission reductions from state and federal measures not accounted from in EMFAC 7G.

**Negative control factors for I/M indicate increased emissions over those in the EMFAC 7G baseline.

Control factors updated April 17.2000.

Control Factors for California Ozone SIP Measures*

South Coast Nonattainment Area 2008

	Enhanced Insp/Maint**	Stale/Fed Measures	Total Factor
ROG			
Light Duty Passenger and Trucks	-0.075	0.072	-0.003
Medium Duty Trucks	-0.047	0.130	0.064
Heavy-Duty Gasoline Trucks	-0.033	0.054	0.021
Heavy-Duty Diesel Vehicles	0.000	0.402	0.402
Motorcycles	0.000	0.1%	0.156
NOx			
Light Duty Passenger and Trucks	-0.017	0.189	0.172
Medium Duty Trucks	-0.008	0.275	0.270
Heavy-Duty Gasoline Trucks	0.000	0.069	0.069
Heavy-Duly Diesel Vehicles	0.000	0.327	0.327
Motorcycles	0.000	0.097	0.097

*Apply these fractions to emissions estimates by vehicb class to calculate emission reductions from slab and federal measures not accounted from in EMFAC 7G.

**Negative control factors for I/M indicate increased emissions over those in the EMFAC 7G baseline.

Control factors updated April 17, 2000.

April 17, 2000

Control Factors for California Ozone SIP Measures*

South Coast Nonattainment Area 2010

	Enhanced Insp/Maint**	State/Fed Measures	On Road Black Box	Total Factor
ROG				
Light Duty Passenger and Trucks	-0.088	0.090	0.241	0.242
Medium Duty Trucks	-6.053	0.167	0.213	0.320
Heavy-Duty Gasoline Trucks	-0.051	0.227	0.199	0.375
Heavy-Duty Diesel Vehicles	0.000	0.408	0.143	0.551
Motorcycles	0.000	0.221	0.160	0.409
NOx				
Light Duly Passenger and Trucks	-0.016	'0207	0.019	0.290
Medium Duty Trucks	-0.005	0.406	0.016	0.417
Heavy-Outy Gasoline Trucks	0.000	0.199	0.021	0.220
Heavy-Duty Diesel Vehides	0.000	0.416	0.015	0.432
Motorcycles	0.000	0.199	0.021	0.220

'Apply these fractions lo emissions estimates by vehicle class to calculate emission reductions from slate and federal measures not accounted from in EMFAC 7G.

**Negative control factors for I/M indicate increased emissions over those in the EMFAC 7G baseline.

Control factors updated April 17, 2000.

April 17, 2000